



Washington's

TRANSPORTATION PLAN

Statewide Focus

INTRODUCTION

While the different regions of Washington have specific transportation needs, each is dependent on the statewide system. Interregional and statewide transportation needs transcend regional boundaries. Although WTP focuses on regional planning efforts, it also addresses important statewide goals.

In the 1998 legislative session, the Washington State Legislature directed WSDOT to focus the next WTP update on five primary goals for the state transportation system:

- Congestion Relief
- Preservation
- Safety
- Freight Mobility
- Seamless Connections

In addition to the interregional and statewide goals listed above, WTP addresses other investment needs via 17 policy goals for the state transportation system. The policy goals are discussed in detail in Chapter 6.

If funding for the WTP needs are met, investments in the programs discussed in the next few pages would help address important statewide transportation issues.

CONGESTION RELIEF

In 1998, the Washington State Transportation Commission appointed a 23-member Congestion Relief Workgroup to develop a Congestion Relief Policy. Workgroup members were representatives of the state legislature, local governments, regional transportation planning organizations, environmental groups, and businesses. The workgroup recognized that growing congestion levels and funding constraints require specific policies to help target available funding.

WSDOT and its transportation partners around the state have identified transportation investments that can help manage congestion. The congestion relief policy served as the basis for identifying these potential projects in which to invest.

The overall goal of the Congestion Relief policy is to *“improve travel time reliability and reduce travel delay for people and freight on the state highway system. These improvements should be measurable and noticeable to the public.”*



Congestion on I-5 North of Mercer Street in Seattle

The Congestion Relief policy identifies several tools that can help increase the supply of transportation facilities and reduce or redistribute the demand for transportation facilities. When prioritizing investments to manage congestion, the most effective tools will vary by location and regional needs.

These tools include:

- *Demand management* — Reducing travel demand by providing attractive alternatives to SOVs, such as transit and ridesharing. Shifting demand out of the peak periods using flexible work schedules or a compressed work week is another demand management tool.
- *Transit service and capital investments* — Establishing or increasing transit service, including the addition of vehicles and facilities.

- *Land use strategies* — Using land use plans and zoning to encourage development patterns that enhance the use of transit and reduce the number and length of trips.
- *Congestion pricing* — Charging users of the transportation system to manage demand on a facility and provide revenues for transportation facilities.
- *System management* — Increasing the flow of vehicles on existing facilities through improvements such as ramp metering, signal coordination, information systems, or incident response.
- *Completion of local networks* — Building key arterials in the local system to provide missing connections in transportation networks.
- *Pedestrian and bicycle ways* — Providing safe and direct travel for bicycles and pedestrians.
- *HOV lanes* — HOV lanes provide more reliable and faster travel times for transit, vanpool, and carpool users.
- *Intelligent Transportation Systems (ITS)* — Application of advanced electronics and computer technology to automate highway and vehicle systems enabling more efficient and safer use of existing highways.
- *Roadway capacity expansion* — Adding more lanes to existing routes or other physical improvements to improve capacity.

For more information about congestion relief improvements on the state highway system, see the 2003-2022 Highway System Plan.

PRESERVATION

Preservation is a statewide goal to keep transportation facilities in sound operational condition. These investments aim to achieve “lowest lifecycle cost” — the best long-term financial investment for a transportation facility — and prevent failure of existing systems. The key is to make investments at the right time to achieve the best possible system with the lowest cost.

For the state highway system, the 20-year preservation of pavements, structures, and other facilities is included in this goal.

- Pavements: Roadways require periodic resurfacing to keep the driving surface smooth and safe, and to prevent failure of the underlying structure. WSDOT’s policy is to resurface roadways when it is most economical to do so. If resurfacing is done too early, pavement life is wasted. Resurfacing that is done too late requires additional repair work and increases the risk of failure of the subsurface structure. This “lowest lifecycle cost” approach results in lower preservation and maintenance costs in the long run.



Preservation: Roadway Pavement

- Structures: Bridges and tunnels require regular inspection, repair, and seismic retrofit to meet system standards. In the next 20 years, more than 1,500 bridges will require major rehabilitation or replacement.
- Other Facilities: Hillside slopes, drainage systems, electrical lighting, information systems and rest areas need to work properly to keep the highway running safely and efficiently. Unstable, failing or outdated systems need rehabilitation or replacement.

Airport runways and bike paths also need preservation investments to maximize the life and quality of the pavements.

For the state’s ferry system, preservation investments can overhaul ferries, extend their service lives, replace retired ferries and update substandard docks and terminals.

The public transit system will also need investments to replace retired buses and deficient facilities.

SAFETY

Washington State's transportation system is safer than ever. Safety improvements and continued traffic safety education and enforcement can further reduce accidents.

WSDOT strives to continuously reduce injuries, fatalities, and risks for travelers on the statewide transportation system. This goal directs the application of safety consciousness in projects and identifies specific safety investments.

For the state highway system, these investments include identifying and eliminating high accident locations and corridors, constructing signals and channels, eliminating at-grade intersections on multi-lane divided highways with speeds of 45 MPH or greater, and reducing pedestrian risk.

Other investments to improve safety include: installing lighting, navigational aids, and other safety improvements at airports; improving bicycle and pedestrian safety on trails and bike paths; eliminating at-grade rail/highway crossings; and safety education programs.



WSDOT Incident Response Team renders assistance on I-5 near Tumwater

FREIGHT MOVEMENT

Citizens and businesses alike rely on Washington's transportation system to receive goods and services, go to work, haul raw materials to factories and farms, and bring products and produce to market. The increasing globalization of the marketplace, Washington's dependence on international trade, and the growing population require improvements to the existing freight movement system to keep the state competitive.

Improving port, rail, highway, and airport facilities will increase the efficiency of moving freight and goods to and from ports and markets. This involves reducing barriers that delay the effective and reliable movement of freight. In some regions, transportation improvements are critical to the economic development of the area.



Freight Movement: Water, Truck and Rail Freight

Specific investments in the state highway system, the largest carrier of freight and goods in the state, include:

- Upgrading sections of deficient highways to reduce freeze and thaw;
- Upgrading highways to reduce road closures caused by avalanches, snow and ice accumulation, and flooding;
- Completing construction of four-lane roadways on major freight routes;
- Creating and updating Weigh-in-Motion stations;
- Constructing bridges or tunnels in the place of rail lines with at-grade roadway intersections;
- Replacing or reconstructing bridges and tunnels with height-restrictions and bridges that cannot carry legal overloads;
- Improving operations and updating technology at the U.S./Canadian border crossing; and
- Improving and maintaining efficient port access.

Freight rail needs investments to reduce train delay and increase rail capacity. Repairing tracks and tunnels, improving rail corridors, and the elimination of at-grade crossings will allow more efficient movement of goods on the freight rail system.

Improvements in airports and ports will facilitate more economical transfer of freight to and from ports, airports, trucks, and trains.

SEAMLESS CONNECTIONS

The lack of integrated connections between transportation modes and roadways can cause congestion, inconvenience and safety issues. One of WSDOT's statewide goals is to ensure that the transportation system offers easy connections between different services throughout the state. Creating links and removing barriers between transportation facilities and services can reduce total travel times and shipping costs while improving existing travel options.



Seamless Connections: Shifting from bicycle travel to bus travel

Washington's transportation system must work as a single system, allowing people and goods to travel by multiple means. WTP investments can provide a better linkage between autos, transit, ferries, carpools, vanpools, trains, biking, and walking. For freight movement, investments in transfer points such as marine ports can improve shipping times.

There are significant barriers to efficient and convenient travel in Washington State. Currently, connections between public transportation services are inconsistent and schedules are sometimes incompatible. There

More than 80 percent of all pedestrian accidents occur at transit stops, demonstrating the need to focus on the safety and comfort of the connection between the pedestrian and transit trip.

needs to be increased coordination between the many different agencies and programs responsible for delivering transportation services in the state. Investments in seamless connections can help create an integrated system that permits travelers to move freely between modes.

One example of this type of investment is the creation of more park and ride lot spaces. Park and ride lots serve as key "intermodal" facilities that support linkages between multiple modes and increase ridership for high occupancy travel. Other examples include intermodal facilities between motorized modes (such as train and bus transfer points), and transit centers that allow bicyclists and pedestrians to connect with motorized modes of travel.

OPERATIONS AND MAINTENANCE

Funding for operations and maintenance is a statewide goal. Through a collaborative planning process, WSDOT and its partners identified the programs and projects that are needed to maintain and operate our existing transportation system for the next 20 years.

The citizens of Washington State have made a large investment in our statewide transportation system of highways, transit, ferries, railroads, airports, bike paths, and other facilities. Operating and maintaining the existing system is a high priority for the state's transportation investments.

Operations

Operations activities concern the day-to-day workings of the transportation system. There are significant costs to operate and staff the state's transit systems (buses, bus stations and other services of 26 different transit authorities around the state), ferry system (auto and passenger ferries and ferry terminals), Amtrak *Cascades* train service, transportation demand management programs, and general aviation airports. It is important to remember the state only has an interest in the public transit operations. Although the state invests a small portion of its budget into public transit operations, the bulk of investment and sole operating authority lies with the 26 different local and regional public transit agencies.

WSDOT's goal is to increase the efficiency of operating existing systems and facilities. Operations costs keep our systems running. Targeted investments can improve system operations while sustaining existing services.

For the state highway system, traffic operations functions optimize the efficiency of the highway system in several ways. Efficiencies of travel time and fuel savings result from traffic signal adjustments and coordination of state-owned and operated traffic signals. Freeway operations can be improved through cost-effective traffic flow management techniques like ramp metering, traffic signals, service patrols, and incident response teams. Traveler information systems keep travelers informed, improving system efficiency and safety while reducing traveler stress.

Maintenance

Maintenance activities protect existing transportation systems and ensure their continued operation. WSDOT strives to maintain the effective and predictable operation of the transportation system and maintain vital transportation services in the event of a natural or other disaster. The major 20-year maintenance needs in Washington State are those for highways, public transit, and ferries.

For highways, maintenance includes:

- Providing reliable roadway surfaces — Patching potholes, filling cracks, and sealing asphalt or concrete surfaces to reduce pavement deterioration.
- Roadside repair — Repairing ditches, dikes and slopes, as well as cleaning ditches, culverts, and other drainage structures to keep the roadway and adjacent property free of water runoff.

- Vegetation — Managing and maintaining 97,500 acres of roadside adjacent to state highways through grass and brush control, litter removal, etc.
- Structures — Inspecting, repairing, and operating bridges and tunnels.
- Snow and Ice — Plowing, sanding, deicing, and performing avalanche control to keep traffic moving safely during the winter season.
- Traffic signs, signals, and striping — Maintaining and repairing lighting equipment, guardrails, fences, signs, pavement markings, traffic signals, etc.



Maintenance: Highway striping

- Rest Areas — Cleaning and sanitizing restroom buildings, picking up litter, mowing grass, performing routine maintenance, etc.
- In addition, highway maintenance personnel are the first line of defense in the event of a natural disaster such as an earthquake or mudslide; they repair damage to the highway system to maintain safe travel.

Transit maintenance consists of servicing buses, stations, and stops. In the next 20 years, many stations and buses will need rehabilitation and repair. Some facilities will need to be replaced or expanded.

Ferry maintenance helps keep auto and passenger ferries running efficiently and in sound condition. These investments also address the condition of ferry terminals and other connecting facilities such as parking lots.

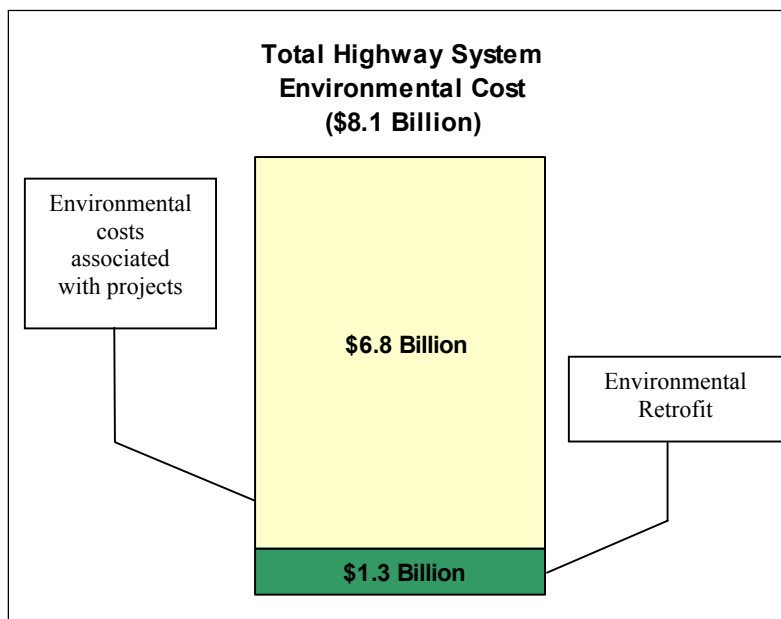
ENVIRONMENTAL MANAGEMENT

Although environmental issues present many challenges for the development of an efficient and effective transportation system, they also present opportunities for state investments to improve the transportation system's interaction with the environment.

WSDOT makes direct investments to reduce the environmental impact of the existing highway system. For each proposed state highway improvement project, WSDOT analyzes potential environmental impacts. If a potential problem or impact is identified, WSDOT strives to find less harmful alternatives or minimize and mitigate any adverse impacts. On any given highway improvement project, approximately 16 percent of the total project funds are dedicated to environmental protection and mitigation.

In addition to the environmental costs that are included in every improvement project, WSDOT addresses environmental issues on the existing system through investments in "retrofit." These investments target problems on the existing system that are no longer meeting current environmental standards. WSDOT's environmental retrofit objectives include reducing the impact of transportation facilities and services on air, water, habitat, and watershed quality, and minimizing the use of resources and increasing use of recycled materials.

Considering environmental retrofit and the environmental costs associated with capital improvement projects, WSDOT will spend approximately \$8.1 billion to address environment issues in the next 20 years.



Air Quality

WSDOT's goal is to reduce the impact of facilities and services on air quality by considering impacts in the selection and design of transportation solutions. Air quality issues are typically addressed in general improvement projects, and all improvement projects in metropolitan areas are analyzed for

air quality impacts. If a project does not meet air quality standards (i.e. conformity for carbon monoxide) it must be modified or not constructed.

Water Quality

On the existing state highways, stormwater runoff flowing from the roadway can contain pollutants that could harm the environment. While existing state highways met or exceeded federal and state water quality standards when they were built, many of the stormwater facilities on the highways must be upgraded to improve water quality and control the amount of water entering streams and lakes. Investments to improve water quality will avoid or mitigate impacts in new projects and target specific retrofits on the existing system.

Habitat and Watershed Connectivity

Transportation systems can adversely affect fish and wildlife habitat and the ecological function of watersheds. WSDOT will assess potential impacts in new improvement projects, address watershed issues associated with the state



Environmental Management: New fish barrier culvert

highway system, and reduce the impacts of past projects via retrofit. Investments will help maintain the quality of watersheds and fish and wildlife habitat.

For example, changing water flows have caused existing highway culverts to block the movement of fish. These 500 fish barrier culverts will be retrofitted through WSDOT's environmental retrofit program, restoring several hundred square miles of valuable habitat to salmonid species.

Recycle

Recycling is a potentially cost-saving venture. WSDOT aims to prudently use, reuse, and recycle resource materials. An environmental cost-benefit analysis needs to be completed to estimate the actual costs incurred by WSDOT when the reduction in landfill and waste disposal costs are factored into the use of recycled and reusable materials.

State departments of transportation across the country have to deal with thousands of tons of waste each year. The goal of reusing materials is to reduce the need for natural resource harvesting, provide relief to landfills, and potentially reduce costs to WSDOT. Examples of usable materials include: reclaimed asphalt pavement, scrap metal, guardrails, crumb rubber, tire chips, and crushed concrete.

SPECIAL NEEDS TRANSPORTATION

An equitable transportation system provides basic transportation services for all citizens. WSDOT and its partners identified possible projects that would strive toward the objective of meeting all basic transportation needs for special needs populations.

Public transit plays a strong role in providing transportation for those citizens who are otherwise unable to reach their destinations. For these citizens, public transit helps them go to work, buy groceries, get to medical services or visit friends and family.

Specific investments in special needs transportation improve accessibility to basic services. These include ADA-designed bus stops, sidewalk ramps, bus wheelchair lifts, and paratransit (demand responsive or “Dial-a-Ride” services).



Special Needs Transportation: Metro Access Transportation Program

Paratransit service is aimed at seniors, persons with disabilities, and others who may have difficulty using regular fixed-route transit services, or who do not have access to a public transit system in their area. This flexible service requires a reservation prior to the trip and offers door-to-door or curb-to-curb service.

In addition to targeted investments, WTP policy directs all improvement projects and programs to incorporate design features to accommodate special needs.

INCREASED TRAVEL OPTIONS

The privately owned vehicle is the most popular travel option in Washington State. Yet many people rely on alternatives to meet their travel needs: public transit, vanpools, carpools, intercity passenger rail, and pedestrian and bicycle travel.

Most major life activities depend on having personal mobility. Providing effective, convenient and accessible alternatives to private automobile travel is important for several reasons. People with special needs, people who cannot afford a car, and others depend on options like public transit to go to work, visit the doctor, and spend time with friends. Other options, such as vanpooling and intercity passenger rail, reduce congestion on the state's highways, helping the economy and the environment.

Investments are needed in these other options to ensure that citizens have more than one effective way to reach their travel destination.

Public Transit

In urban areas, the health of the economy is tied to the ability to move people and freight. Public transportation is a commute option for workers to connect with jobs and training. It can also connect customers with retail and professional services.

The economy in rural areas is impacted by the availability of transportation choices. Rural isolation and limited travel options can cause a loss of services and jobs in rural areas. Maintaining older families in their traditional homes, providing access to health care services and errands, and connecting youth and families with employment, education and entertainment are important factors in stimulating rural economies. Public transportation has a role in providing each type of access.

Some investments that can increase transit options for rural and urban travelers are:

- Additional buses and routes,
- Creation or expansion of trolley, commuter rail, light rail, and monorail services,
- Creation of non-traditional transit services (such as demand responsive, flexible routing, real-time scheduling) offering more choices; and
- Technical support for local transit jurisdictions.

Intercity Passenger Rail

Over the next 20 years, intercity travel within Washington is expected to increase by 75 percent, causing major transportation corridors to grow even more congested. Having an effective intercity passenger rail service in place will provide travelers with an option to automobile transportation and help keep people moving throughout the region. With this in mind, WSDOT is incrementally upgrading Amtrak *Cascades* service along the Pacific

Northwest Rail corridor in Western Washington. The state's goal is to provide safe, faster, more frequent, and more reliable passenger rail service.

Amtrak *Cascades* trains operate over the Burlington Northern and Santa Fe Railway (BNSF) main line. They share those tracks with freight trains. With increases in passenger and freight rail service, the tracks are reaching their capacity.



Increased Travel Options: Amtrak *Cascades* on Puget Sound

Congestion is caused by the increased number of trains on the track, particularly where bridges or tunnels limit the system; where freight trains are put together and/or taken apart; and where rivers, shorelines, and mountains limit train service. If more passenger trains are added to this corridor, improvements must be made to relieve or bypass these chokepoints.

Improvements to track, grade crossings, train control signals, safety systems, train equipment and stations will reduce travel times, increase train frequency, and improve safety and reliability.

Transportation Demand Management

TDM and CTR strategies move more people in fewer vehicles and reduce the need for vehicle travel. In the next 20 years, these programs can be expanded and strengthened through purchases of new vans for ridesharing, construction of park and ride lots in strategic locations, creation and expansion of carsharing programs, improvement of commuter pass programs, and implementation of more telecommute options. Other investments will increase education and outreach efforts to local communities and schools and explore greater incentives for participation in TDM and CTR programs.

Bicycle and Pedestrian

Walking and bicycling are considered part of the statewide transportation system. Nonmotorized trips are made to commute to work and school, shopping, and for other purposes. Pedestrians and bicyclists also connect with buses, ferries, and rail stations.

Investments in this mode will add sidewalks and bicycle lanes along existing streets and roads, improve pedestrian and bicycle crossings across highways and key regional roads, and extend or connect existing bicycle and pedestrian trails.